

Setting the stage

Property transfer positions Stennis for years of growth

NASA marked the official transfer of 1.6 million square feet of facility space from the U.S. Army to Stennis Space Center, poising the south Mississippi site for years of major expansion.

U.S. Sen. Thad Cochran of Mississippi and NASA Deputy Administrator Lori Garver attended an Aug. 24 transfer ceremony, which increased available Stennis facility space by about 33 percent. The space now will be used to attract employers that complement NASA's mission, to support new government tenants and to offer added space for on-site work.

"Stennis Space Center is a major economic engine for this region," Stennis Space Center Director Patrick Scheuermann said. "This property

See PROPERTY, page 5



Stennis Space Center Director Patrick Scheuermann (left) addresses visitors gathered for the official transfer of former Mississippi Army Ammunition Plant facilities to NASA. The action transfers 1.6 million square feet of facility space, increasing Stennis' work facilities by about one-third and setting the stage for years of expansion. Participants in the transfer ceremony were (l to r): Scheuermann; U.S. Sen. Thad Cochran, R-Miss.; Lori Garver, NASA deputy administrator; Rear Admiral Jonathan White, commander of the Naval Meteorology & Oceanography Command at Stennis; Mike Brown, executive director of Information Technology Services for the U.S. Department of Homeland Security; and Steve Bouley, vice president of Launch Vehicle & Hypersonic Systems for Pratt & Whitney Rocketdyne.

Stennis hosts 1st live ISS downlink

An area student prepares to ask a question of astronauts Ron Garan, Mike Fossum and Satoshi Furukawa during a live video linkup with the International Space Station at Stennis Space Center on Aug. 18. Students from four Louisiana and Mississippi schools gathered at Stennis for the center's first-ever live video link from space. During the event, students asked members of the Expedition 28 crew questions about living in space and about its effects on such things as mass and weight. The video link was in support of the Mass vs. Weight teaching curriculum developed by the Stennis education team last year. (See page 5 for additional photos)



From the desk of
Rick Gilbrech
 Deputy Director
 Stennis Space Center



Quietly and gracefully, the Space Shuttle Program Office was disbanded at the end of August following completion of the final mission, STS-135. This was to me the end of an era and the specific point of closure to a magnificent 30-year flight program of amazing accomplishments by the space shuttle team.

I had the privilege of seeing over 20 launches, six of which were on console in the Launch Control Center at Kennedy Space Center, representing Stennis and the testing pedigree of the space shuttle main engines. The program was already into its 10th year of flight when I joined NASA Stennis in 1991, and I can say my entire career, in some form or fashion, has been tied to it over the past two decades. The caliber and capability of the space shuttle team is unparalleled anywhere in the world, and I am proud to have been associated with such a historic chapter in human spaceflight achievement.

While it is natural to feel some degree of sadness

when such a large part of our center's mainstay business officially ends, I like what the STS-135 shuttle crew presented during their visit here last month, quoting Dr. Seuss, "Don't be sad it's over, smile because it happened."

But it doesn't stop there – as with any story, the current chapter has to end for the next chapter to begin, and that is where we are today. I remain optimistic that once we are released to pursue the Space Launch System in earnest, we will charge forward to tackle any challenges and field a new launch vehicle.

I like to remember the quote by Hubert H. Humphrey Jr., "Instead of worrying about the future, let us labor to create it." We have been creating our future here at Stennis Space Center for some time as we have unique test assets, a capable workforce and plenty of proven successes to build upon for the next chapter in our testing history.

One thing you can choose every day is your attitude, and I choose to remain excited about the future of NASA and Stennis Space Center. I hope you will share this attitude with me because there is much to be done, and we are just the team to do it!

Richard J. Gilbrech



NASA official, senator visit INFINITY facility

Stennis Space Center Director Patrick Scheuermann (l to r) stands with Apollo 13 astronaut Fred Haise, NASA Deputy Administrator Lori Garver and U.S. Sen. Thad Cochran, R-Miss., during a tour of the INFINITY at NASA Stennis Space Center facility under construction. Garver and Cochran visited Stennis for an Aug. 24 event and toured various site facilities. The 72,000-square-foot INFINITY science and education center is being built just west of the Mississippi Welcome Center at Exit 2 on Interstate 10. When completed, it will feature space and Earth galleries to showcase the science that underpins missions of the resident agencies at Stennis. INFINITY is being spearheaded by a nonprofit corporation co-led by Haise, in partnership with NASA, the state of Mississippi and private donors.

FULFILLING NASA'S EXPLORATION MISSION

A Stennis panorama



A photograph taken from the roof of the B-1/B-2 Test Stand at Stennis Space Center offers a panoramic view of an Aug. 17, 2011 test firing of the next-generation J-2X rocket engine on the A-2 Test Stand. Almost the entire A Test Complex is visible in the background. The A-3 Test Stand under construction is seen in the background at the left. The 300-foot-tall structure will be used to conduct simulated high-altitude tests on next-generation rocket engines. In the center background, just beyond the second tree line, stands the E Test Complex. Constructed in the late 1980s

and early 1990s, the versatile, three-stand complex includes seven separate test cells capable of supplying ultra high-pressure gases and cryogenic fluids, using a variety of rocket propellants. The E-1 Stand currently is used to test Orbital Sciences Corporation's Aerojet AJ26 engines that will power commercial cargo flights to the International Space Station. The A-1 Test Stand is in the right background. It is being modified to conduct powerpack testing for the J-2X engine. The J-2X is being developed for NASA as an engine that could carry humans beyond low-Earth orbit into deep space.

J-2X banner heralds new A-2 test series

A new color banner on the Stennis Space Center A Test Complex fence near the public viewing area identifies the major test series under way. Stennis engineers are testing the J-2X rocket engine, an upgrade from the historic J-2 engine that was used during the Apollo Program and a next-generation engine that could carry humans into deep space once more. Sea-level testing of the engine is under way on the A-2 Test Stand (foreground). Engineers are modifying the A-1 Test Stand (right background) to perform power pack testing for the new engine. Meanwhile, construction continues on the A-3 Test Stand (left background), which will allow Stennis operators to perform testing of the J-2X engine or other next-generation engines at simulated altitudes up to 100,000 feet to certify they will fire in space.



Crew visit marks close of shuttle program

(Top right photo) Stennis Space Center Director Patrick Scheuermann (far right) welcomes STS-135 mission Commander Chris Ferguson (l to r), Pilot Doug Hurley and Mission Specialists Sandra Magnus and Rex Waldheim during the crew members' visit to the engine test facility Aug. 11. The astronauts visited Stennis to thank employees for testing the engines that powered their STS-135 mission to the International Space Station in July. The mission marked the final flight for shuttle Atlantis and the final flight of NASA's Space Shuttle Program.



(Center right photo) Ferguson presents a commemorative plaque to Scheuermann following the crew's report on their STS-135 mission, which ended July 21.



(Remaining photos) Stennis welcomed the STS-135 crew members at a "wheels stop" celebration of the 30-year Space Shuttle Program. During the event, employees and visiting family members enjoyed StenniSphere exhibits and chances to visit with astronauts during autograph and photo sessions. Stennis Space Center began testing space shuttle main engines in 1975 and ended the test series in July 2009. During the 34-year span, Stennis engineers tested the main engines that powered every one of the 135 space shuttle missions.



PROPERTY

Continued from page 1

transfer assures Stennis will not only remain an economic force for years but will grow even stronger and have an even greater impact on its surrounding communities.”

A 2011 study calculated Stennis Space Center has a \$616 million direct economic impact within a 50-mile radius, and accounts for a conservative estimate of 23,000 local jobs. That translates to about \$1.03 billion of personal income in 2010.

A dozen tenants already occupy the former Army facilities, including Pratt & Whitney Rocketdyne, the Government Printing Office, the Department of Energy, Boe-Tel and the National Center for Critical Information Processing and Storage.

Ground was broken for construction of the Mississippi Army Ammunition Plant in 1978. It opened in 1983 as the most sophisticated munitions-manufacturing facility in the nation. Plant production of 155mm howitzer projectiles and grenade bodies ended in 1990. In 1992, the U.S. Army began leasing space to tenants. The facility was designated for closure in 2005 and officially closed in 2009. It was transferred to NASA ownership two years later.

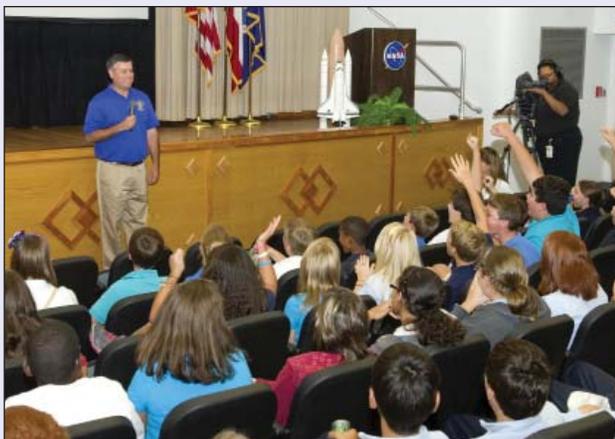
In 2009, Stennis Space Center was designated a “project ready” site for high-tech businesses seeking a new location. It was the first Mississippi site to gain the technology park certification. The designation identifies locations that are ready to go and relatively risk-free for businesses. Sites must meet high criteria in such areas as availability of infrastructure, utilities, transportation and facilities.



(Top photo) Stennis Space Center Director Patrick Scheuermann (l to r) stands with Sen. Thad Cochran, R-Miss.; Lori Garver, NASA deputy administrator; Rear Admiral Jonathan White, commander of the Naval Meteorology & Oceanography Command at Stennis; Mike Brown, executive director of Information Technology Services for the U.S. Department of Homeland Security; and Steve Bouley, vice president of Launch Vehicle & Hypersonic Systems for Pratt & Whitney Rocketdyne. (Right photo) Garver and Cochran stand in front of the A-3 Test Stand under construction at Stennis.



Area students talk with space station astronauts



Stennis Space Center Director Patrick Scheuermann (above) talks with Louisiana and Mississippi students gathered in StenniSphere to participate in a live video feed with astronauts aboard the International Space Station. The Aug. 18 call was broadcast live on NASA Television.



At one point during the feed, astronaut Satoshi Furukawa (above) demonstrated the effects of weightlessness by showing students how easy it is to turn somersaults in space. The ISS astronauts demonstrated and discussed various aspects of living in space for participating students.

For Kellars, Stennis is a true family tradition



Note: For 50 years, NASA's John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month's issue of Lagniappe highlights one of the longtime employees at the south Mississippi rocket engine test center.

NASA's Stennis Space Center is turning 50 this year, and one longtime employee is celebrating the occasion by not retiring.

Jeanne Kellar of Nicholson recently marked her 45th anniversary of employment at the rocket engine test facility. Employed now by Erica Lane Enterprises Inc. as part of the Facility Operating Services Contract Group (FOSC), Kellar has spent her entire Stennis career in Central Engineering Files, the repository of all blueprints and engineering drawings. Though she reached retirement eligibility several years ago, "I don't plan to retire any time soon," she says. "I enjoy my work, I'm very proud of what we do here, and I want to see America go back into space."

Enthusiasm for America's space agency and connections to Stennis are a Kellar family affair. Four of her six children now work at Stennis, but each has worked at the center at one time or another. Her late husband Absalom Alexander Kellar had been a Santa Rosa resident. His extended family was among the 660 families in five communities who gave up homes and land to make way for the center in the 1960s.

Kellar's oldest son, Clay, is an environmental systems

operator with Jacobs Technology's FOSC Group. He remembers one day in 1969 when his mother called him inside and sat him in front of the black-and-white television to watch two American astronauts walk on the moon. "Mom was jumping up and down for joy, saying, 'That's what we do at the test site. That's what we do!'"

Daughter Susan Kellar Fendley is an electrical engineer for Lockheed-Martin's Test Operations Contract Group. She is involved in testing the Aerojet AJ26 engine in the E Test Complex. "To be involved at the start of a program until the engine actually fires is a great thing," she says. "It really gives you a sense of accomplishment."

Son Steven performs similar work for Pratt & Whitney Rocketdyne's RS-68 engine program. He still shivers slightly when recalling his first day on the job in 1987. "I saw my first space shuttle main engine test," he says. "It was so powerful, it almost seemed to me the test stand was going to blow up. It was amazing. It still amazes me."

Though her work at Stennis with the Department of Navy is far removed from the engine test complexes, daughter-in-law

Rhonda shares the family's passion for the center. "I pushed all my kids to work here," Jeanne Kellar says. "I knew it was an opportunity for a career that would let them stay close to home."

"I was 32 when I came to work here," she adds. "This job has fulfilled every dream for me. I've never looked back. I've loved working here, and I still want to see Stennis advance. I believe it's the American future."



Jeanne Kellar stands in front of the A-2 Test Stand at Stennis Space Center, where she has worked for 45 years.

Stennis visits NYC

Chris Copelan (right), education program specialist at Stennis Space Center, and Maria Lott, Stennis Astro Camp director, talk about living and working in space with visitors gathered for the "What's Your Favorite Space?" event in New York City on Aug. 17. Stennis educators teamed with peers from three other NASA centers to present a variety of hands-on activities and informational presentations during the event, presented by NASA and the Eventi Hotel. An estimated 4,000 people visited the Eventi plaza to view the displays, engage in space-related activities and enjoy presentations that included a visit by crew members of shuttle Atlantis' final mission in July.



Office of Diversity and Equal Opportunity

Celebrate National Hispanic Heritage Month

Each year, Americans observe National Hispanic Heritage Month from Sept. 15 to Oct. 15, by celebrating the histories, cultures and contributions of American citizens whose ancestors came from Spain, Mexico, the Caribbean and Central and South America.

The annual observation began in 1968 as Hispanic Heritage Week under President Lyndon Johnson and was expanded by President Ronald Reagan in 1988 to cover a 30-day period.

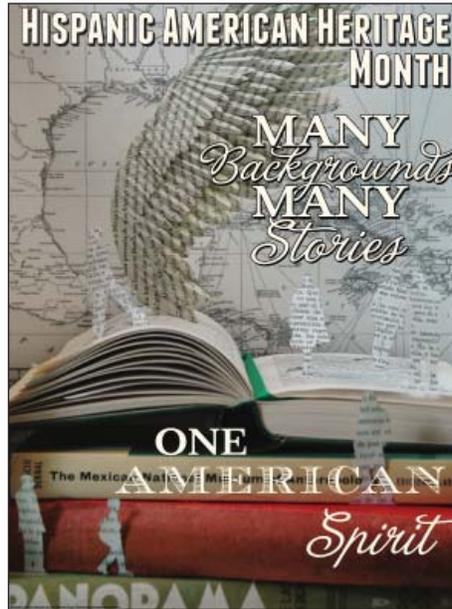
The day of Sept. 15 is significant because it is the anniversary of independence for Latin American countries Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua. In addition, Mexico and Chile celebrate their independence days on Sept. 16 and Sept. 18, respectively. Also, Columbus Day or Día de la Raza, which is Oct. 12, falls within this 30-day period.

There are many “firsts” in the Hispanic and Latino culture in America. Some of the notable are:

- U.S. Attorney General: Alberto Gonzales, 2005.
- Democrat to run for President: Bill Richardson, 2008.

Though he eventually lost the nomination to Barack Obama, Richardson made history by entering the race.

- U.S. Supreme Court Justice: Sonia Sotomayor, 2009. She is also the third woman to hold the position.



- Astronaut: Franklin Chang-Díaz, 1986. He flew on a total of seven space shuttle missions.
- Female astronaut: Ellen Ochoa, whose first of four shuttle missions was in 1991.
- Star of a network television show: Desi Arnaz, 1952, “I Love Lucy.”
- Broadcaster of the Year: Geraldo Rivera, 1971.
- Major sports team owner: Arturo “Arte” Moreno bought the Anaheim Angels in 2003, becoming the first Hispanic owner of any major U.S. sports franchise. In 2005, he renamed the team the Los Angeles Angels of Anaheim.

Hispanics and Latinos are a broad and geographically diverse group of people who have contributed greatly to our society. Please join the Stennis Diversity Council as it pays tribute to the Hispanic heritage this month.

Women’s Equality Day

Stennis Space Center Director Patrick Scheuermann (right) stands with Rear Admiral Jonathan White (l to r), commander of the Naval Meteorology & Oceanography Command at Stennis; Myrtis Franke, Southern District director for the Office of U.S. Sen. Thad Cochran, R-Miss.; and Amy Grose, NASA chief counsel at Stennis, following a Women’s Equality Day panel discussion program for facility employees Aug. 25.

Hail & Farewell

NASA bids farewell to the following:

Callie Hall	AST, Earth Sciences Remote Sensing Project Directorate
Dwana King	Student Trainee/Environmental Center Operations Directorate
Travis Snelling	AST, Facility Systems Safety Office of Safety & Mission Assurance
Barbara Cour-Palais	Management & Program Analyst Office of the Chief Financial Officer

And welcomes the following:

Mark Turowski	AST, Experimental Electrical Equipment Tech Engineering & Test Directorate
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LAGNIAPPE

is published monthly by the
Office of External Affairs - Public Affairs
at NASA's John C. Stennis Space Center

NASA PUBLIC AFFAIRS OFFICE
Attn: LAGNIAPPE
Mail code IA10
Building 1100, Room 304
Stennis Space Center, MS 39529
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National Aeronautics and
Space Administration

John C. Stennis Space Center
Stennis Space Center, MS 39529

Official Business
Penalty for Private Use \$300

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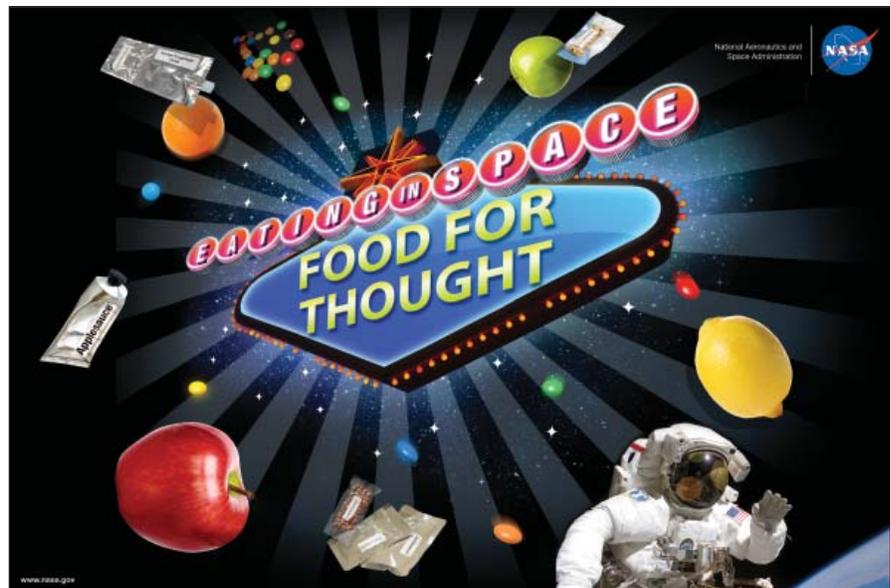
Stennis unveils 'Food for Thought' curriculum

Since the very early days of the American space program, NASA scientists have focused on the issue of providing astronauts nutritious food in space. Thanks to a new teaching curriculum developed by the education team at Stennis Space Center, students in grades 5-8 will join in the effort.

The Stennis Education Office released its new "Food for Thought" teaching curriculum and interactive website Sept. 2. It uses the idea of food in space to teach students such topics as caloric content and nutritional value of food, while challenging them to build space robots, design a better microgravity coffee cup and create a space cookie recipe.

"We're excited about the new curriculum and how it will engage students," said Katie Wallace, director of the Stennis Education Office. "It offers valuable lessons while also challenging students with fun, hands-on activities. This is exactly the type of teaching that will help educate and inspire the innovators of tomorrow."

The curriculum is the third produced by the Stennis education team, all within the last 15 months. It is part of NASA's Teaching from Space initiative, designed to promote science, technology, engineering and mathematics learning by students. As with



other Teaching from Space curricula, Food for Thought engages students in real NASA missions and research. The Food for Thought curriculum helps students research space foods, develop sample space food menus, design a robot capable of handling foods, sample surfaces for microbial contamination, investigate the properties of liquids in space, design and test a microgravity cup, and create a space cookie recipe and bake it for taste testing.

The curriculum website includes activities to teach students about space food and human spaceflight, as well as videos and links to encourage further exploration. The site also features a fact-filled "Space Food Hall

of Fame" where visitors can read about famous and noteworthy space foods and vote for their favorites.

Food for Thought was developed in coordination with the FIRST® LEGO® League, which has a Food Factor challenge in 2011 for students to explore food safety and ways to prevent contamination.

"Our education team really enjoyed creating this curriculum," Wallace said. "We hope teachers will use it for years to come to help excite students about learning and about space exploration."

To access Food for Thought materials, visit <http://education.ssc.nasa.gov/foodforthought.asp>